

Abstract

Apparatuses designed to provide support to a conveyor belt in a new manner. In a first illustrative embodiment, a conveyor belt is supported by a number of magnets. A first set of magnets are disposed on the edges of the conveyor belt, and a second set of magnets are disposed on a support apparatus for the conveyor belt. The first a second sets of magnets interact to create repulsive forces that provide both lateral and vertical support to the conveyor belt. Tension provided by the lateral forces can help the belt move smoothly and with less wear than the support provided by existing support idlers.